

TITLE OF THE INVENTION

VIRAL AMPLIFICATION OF RECOMBINANT MESSENGER RNA IN  
TRANSGENIC PLANTS.

ABSTRACT

5           A novel method of over expressing genes in  
plants is provided. This method is based on the RNA  
amplification properties of plus strand RNA viruses  
of plants. A chimeric multicistronic gene is  
constructed containing a plant promoter, viral  
10   replication origins, a viral movement protein gene,  
and one or more foreign genes under control of viral  
subgenomic promoters. Plants containing one or more  
of these recombinant RNA transcripts are inoculated  
with helper virus. In the presence of helper virus  
15   recombinant transcripts are replicated producing high  
levels of foreign gene RNA.

Sequences are provided for the high level  
expression of the enzyme chloramphenicol  
acetyltransferase in tobacco plants by replicon RNA  
20   amplification with helper viruses and movement  
protein genes derived from the tobamovirus group.

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